West Nile Virus and Other Mosquito-borne Disease Report

July 22 – July 28, 2018 (Report Week 30)

West Nile Virus

Canada

Human

As of July 28, 2018, the Public Health Agency of Canada has been informed of four clinical (confirmed or probable) cases of West Nile virus (WNV): three in Ontario and one in Manitoba. Of these, three (75%) have been classified as WNV neurological syndrome and one case (25%) as unspecified. No deaths have been reported.

Mosquito

To date (week 30), the PHAC has been notified of 7,179 mosquito pools tested for WNV: 416 in Saskatchewan, 1,224 in Manitoba, 4,857 in Ontario, and 682 in Québec. Of these, 118 positive mosquito pools were found: nine in Saskatchewan (Moist Mixed Grassland/Aspen Parkland [8] and Mixed Grassland [1]), eighty-one in Manitoba (Winnipeg [22], Interlake-Eastern [16], Prairie Mountain [17], and Southern [26]) and twenty-eight in Ontario (City of Ottawa [1], City of Hamilton [1], Oxford County [1], City of Toronto [1], Waterloo [2], Simcoe Muskoka District [1], Middlesex-London [1], Haldimand-Norfolk [1], Halton Region [1], Peel Region [3], Windsor-Essex County [11] and York Region [4]).

Wild Bird

As of week 30, a total of forty dead wild birds have been tested for WNV by the Canadian Wildlife Health Cooperative (CWHC) and Manitoba Agriculture: one in Alberta, seven in Saskatchewan, ten in Manitoba, fifteen in Ontario, six in Québec, and one in Nova Scotia. Of these, twenty-one dead wild birds were positive for WNV: ten in Manitoba (Winnipeg Regional Health [10]), three in Quebec (Estrie [3]), one in Saskatchewan (Saskatoon [1]) and seven in Ontario (Wellington-Dufferin-Guelph [1], Leeds, Grenville & Lanark [1], Lambton Public Health [1], Middlesex-London [2] and Southwestern Public Health [1]) and Kingston, Frontenac, Lennox & Addington [1].

Equine

The Canadian Food Inspection Agency (CFIA) has received notification of the first confirmed case of WNV in a horse from Manitoba (Interlake-Eastern).

United States and U.S. territories

As of July 24, thirty-nine human cases of WNV have been reported to the US Centers for Disease Control and Prevention (CDC). Of these, twenty-three (59%) were classified as neuroinvasive disease and sixteen (41%) as non-neuroinvasive disease. One death has been reported. In addition, twelve presumptive viremic blood donors have been identified.

Europe and Neighboring Countries

As of July 26, ninety-seven human cases of West Nile fever have been reported to the European Centre for Disease Prevention and Control in the following countries: Serbia (41), Greece (22), Italy (24), Romania (5), and Hungary (5). Three deaths have been reported (Serbia [3]). (Weekly updates: 2018 West Nile fever transmission season)

Other Mosquito-borne Diseases

Canada

Eastern Equine Encephalitis virus

No human cases of Eastern Equine Encephalitis virus (EEEV) have been reported to the PHAC, since the start of the 2018 season.

California Serogroup virus

In surveillance week 30, no human cases/exposures of California serogroup virus were diagnosed by the National Microbiology Laboratory in the PHAC.

FIGURE 1: Geographic distribution of WNV human clinical cases and asymptomatic infections in Canada, 2018

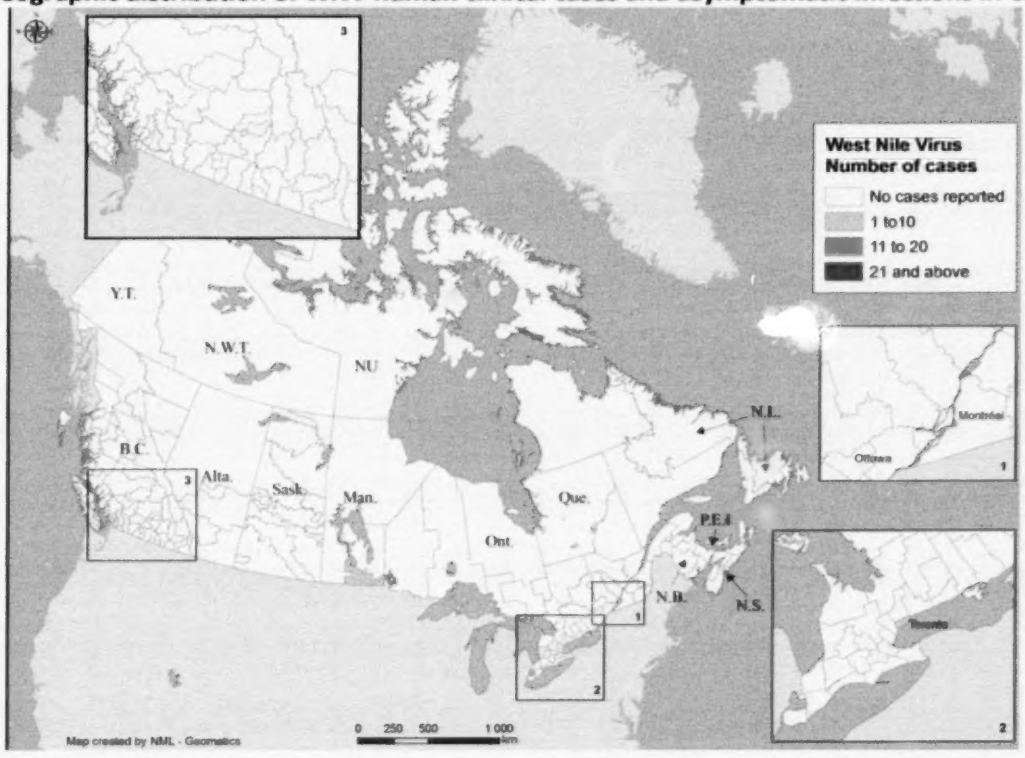
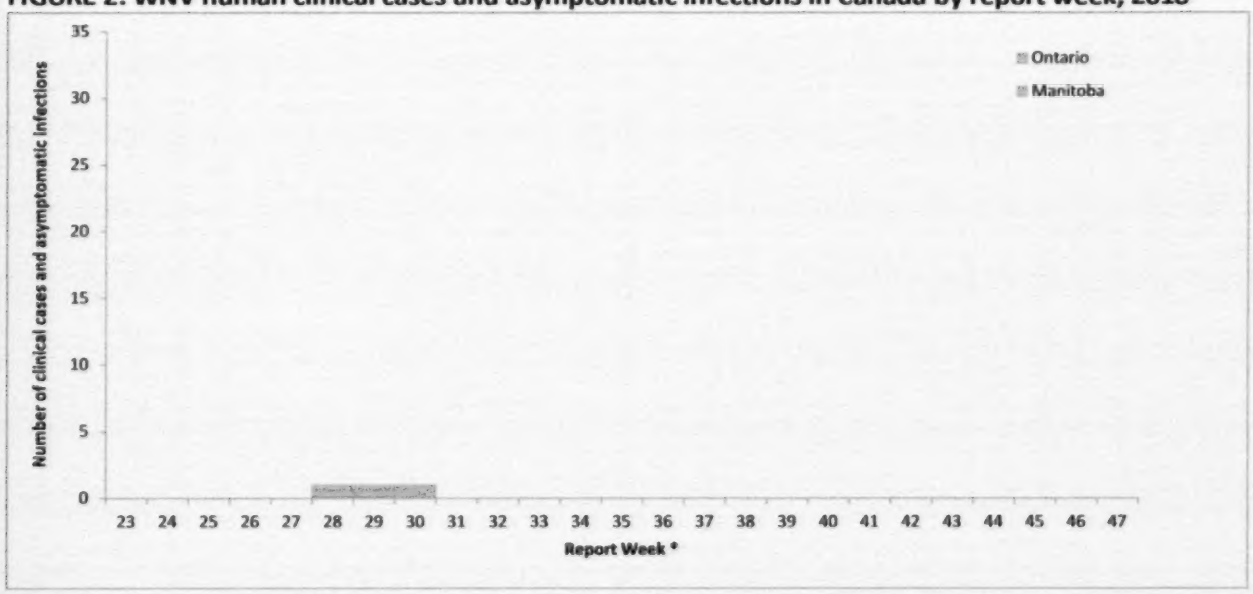
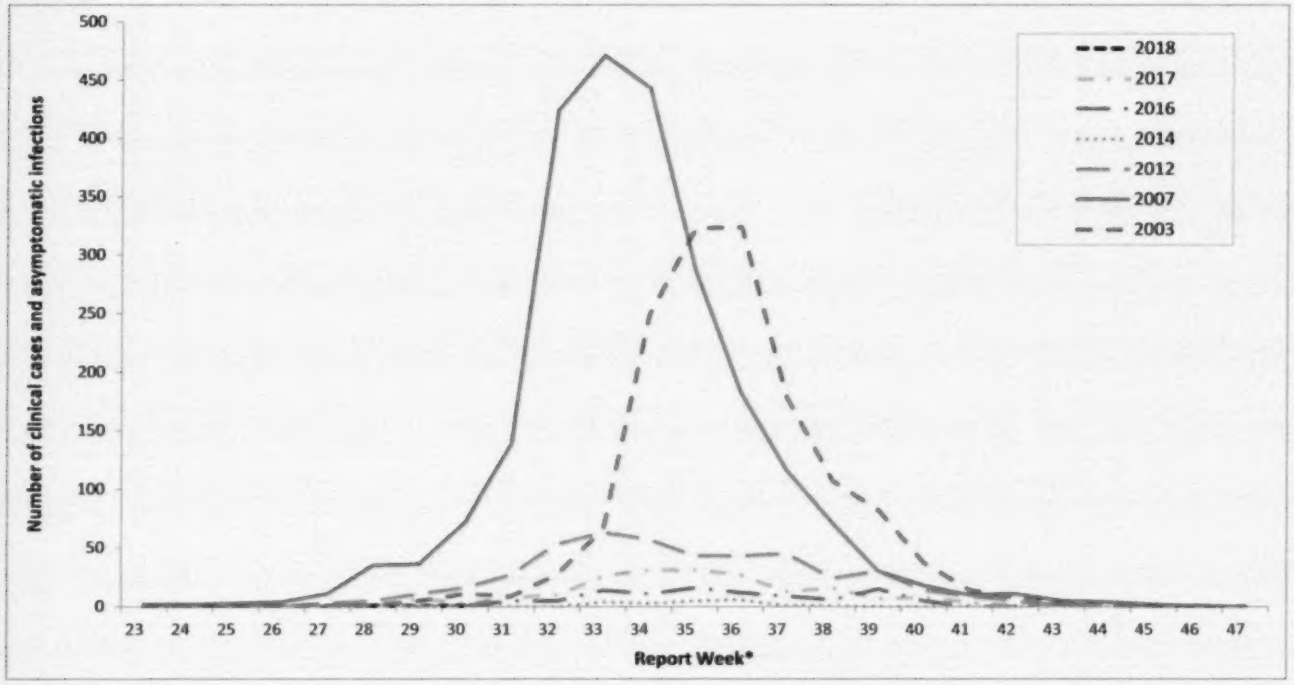


FIGURE 2: WNV human clinical cases and asymptomatic infections in Canada by report week, 2018



* WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

FIGURE 3: WNV human clinical cases and asymptomatic infections for selected years by report week, in Canada



* WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

TABLE 1: WNV human clinical cases and asymptomatic infections in Canada by report week and year to date, 2018

Province/Territory	Clinical Cases			Total clinical cases[1]	Total travel-related cases[2]	Total asymptomatic infections[3]
	Neurological syndrome	Non-neurological syndrome	Unclassified/ Unspecified			
Week 30: July 22 to July 28, 2018						
British Columbia	0	0	0	0	0	0
Alberta	0	0	0	0	0	0
Saskatchewan[4]	0	-	-	-	-	-
Manitoba	1	0	0	1	0	0
Ontario	1	0	0	1	0	0
Québec	0	0	0	0	0	0
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	**2**	**0**	**0**	**2**	**0**	**0**
Year to date: January 1 to July 28, 2018						
British Columbia	0	0	0	0	0	0
Alberta	0	0	0	0	0	0
Saskatchewan[4]	0	-	-	-	-	-
Manitoba	1	0	0	1	0	0
Ontario	2	0	1	3	1	0
Québec	0	0	0	0	0	0
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	**3**	**0**	**1**	**4**	**1**	**0**

[1] Total clinical cases are the sum of confirmed and probable: WNV neurological and non-neurological syndromes, along with any unclassified or unspecified cases.

[2] Likely related to travel outside the Province/Territory. These cases are included in either the total clinical cases or WNV asymptomatic infections.

[3] Satisfies WNV diagnostic test criteria in the absence of clinical criteria. This category could include asymptomatic blood donors whose blood is screened using a nucleic acid amplification test, by blood operators (i.e. Canadian Blood Services or Hema-Quebec) and is subsequently brought to the attention of public health officials. Blood operators in Canada perform a supplementary WNV specific nucleic acid amplification test following any positive donor screen test result.

[4] Saskatchewan provides counts of WNV neurological syndrome cases only.

TABLE 2: WNV mosquito surveillance* in Canada, as of July 28, 2018

Province	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Saskatchewan	9	416	2.16
Manitoba	81	1,224	6.62
Ontario	28	4,857	0.58
Québec	0	682	0.00
Total	**118**	**7,179**	**1.64**

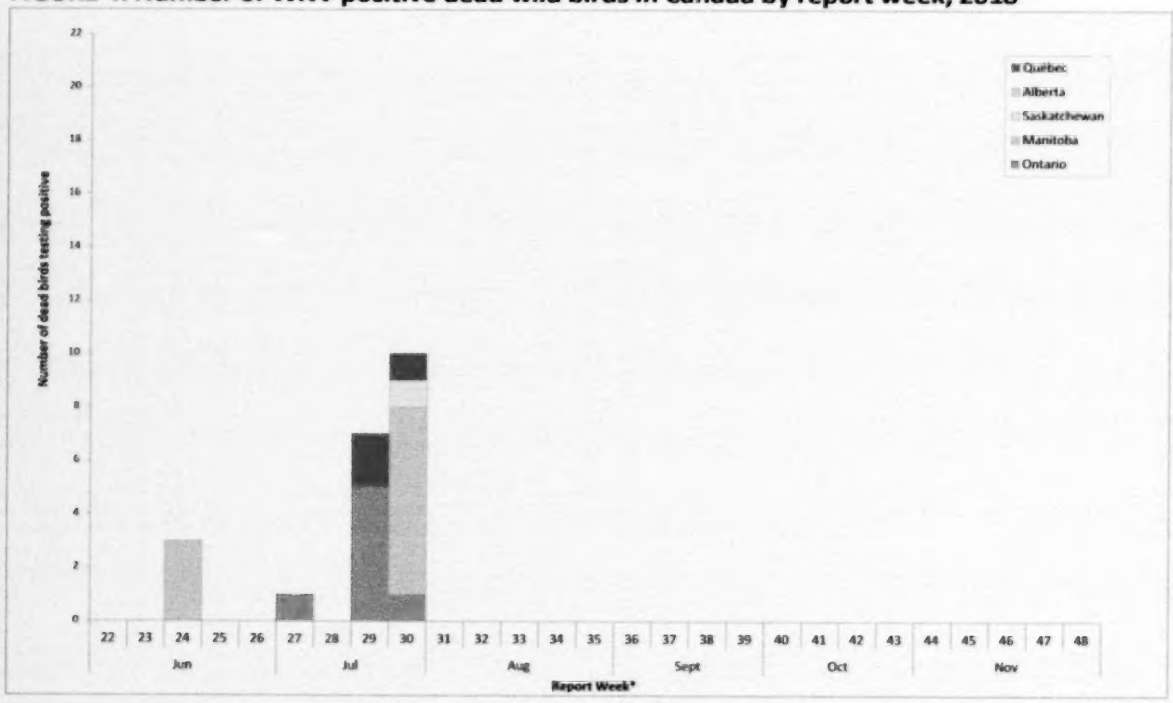
*Mosquito surveillance data is reported by the following four provinces: Quebec, Ontario, Manitoba, and Saskatchewan.

TABLE 3: Total number of WNV mosquito pools tested by report week and by province/ territory, 2018‡

Province	Report Week																	
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Total
Saskatchewan	15	18	17	45	54	79	95	93											416
Manitoba	39	89	107	124	122	241	240	247											1,224
Ontario	0	0	0	842	955	1024	963	1073											4,857
Québec	69	77	105	105	108	109	109	-											682
Total	**123**	**184**	**229**	**1,116**	**1,239**	**1,532**	**1,407**	**1,413**											**7,179**

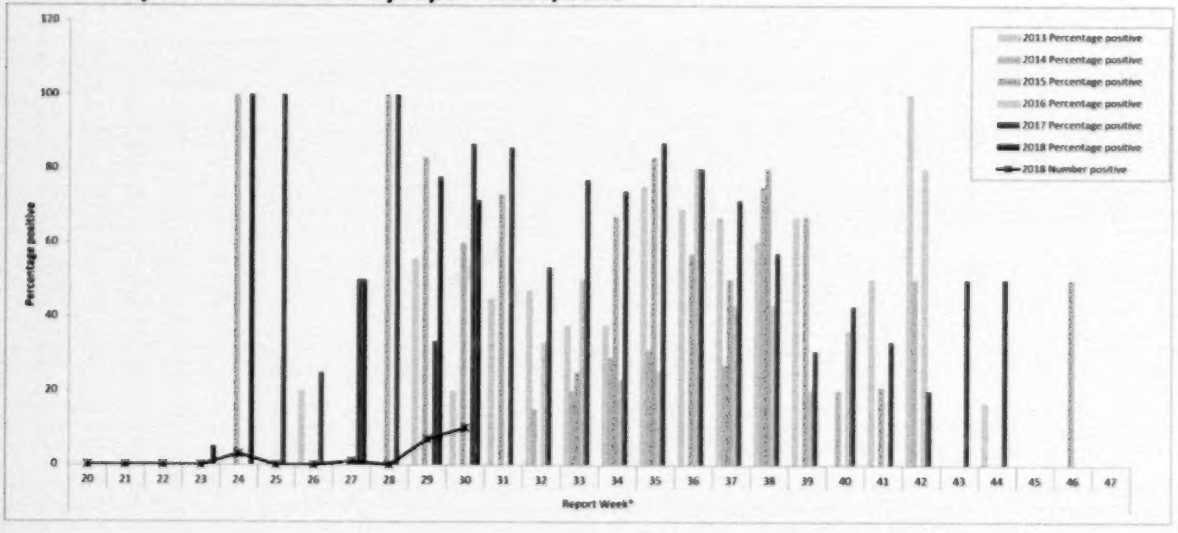
‡ Detailed West Nile Virus mosquito surveillance data can be accessed through provincial/territorial websites.

FIGURE 4: Number of WNV positive dead wild birds in Canada by report week, 2018*



* Not all provinces conduct dead wild bird surveillance as part of their respective WNV surveillance program. However, WNV positive dead wild birds may be identified through the National Wildlife Disease Surveillance Program, CWHC or some provinces.

FIGURE 5: Percentage of dead wild birds positive for WNV by report week in 2012-2018 and number of dead birds positive in Canada by report week, 2018*



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